

NOTES ON THE HYMENOPTERA CHALCIDOIDEA, WITH DESCRIPTIONS OF SEVERAL NEW GENERA AND SPECIES.

By A. A. GIRAULT,

BRISBANE, AUSTRALIA.

Family PTEROMALIDÆ.

Subfamily SPHEGIGASTRINÆ.

Tribe *Sphægigastrini*.

URIOS, new genus.

Female.—Eyes dark red, margined with ocher, ovate, moderate in size; whole head reticulated, an ochreous area caudad of and bordering each eye; sparse, rather long white hairs on head; antennæ inserted about in the middle of the face, distinctly above an imaginary line drawn between the ventral ends of the eyes; occipital margin of vertex obtuse; lateral ocelli very far from the eye margins; antennal bulbs separated for half their own width, distant from the eyes; antennal scobe barely indicated just above the insertion, the face shallowly concave above bulbs; beneath them crossed by a broad, somewhat irregular ochraceous band which also extends somewhat above them. Cephalic ocellus nearly in cephalic aspect, the scape reaching above it. Head subtriangular, not much wider than the thorax. Clypeus not conspicuous. Maxillary palpi 4-jointed, the apical joint long, equal to the two preceding joints; labial palpi 3-jointed.

Both mandibles tri-dentate, the third tooth shortest, broadly truncate (but its apical margin slightly emarginate, giving the appearance of two weak teeth on each side), the two outer teeth subobtuse, distinct but not strong, the outer the longest (of itself short).

Antennæ 12-jointed, subclavate or cylindrical and enlarging gradually to end of club-scape; pedicel, one large ring-joint, 5 funicle joints, and a 4-jointed club; ring-joint long but still wider, distinct; scape obclavate, with its bulb about thrice the length of the usual obconic pedicel, the latter subequal in length to the rather long first funicle joint; remaining funicle joints shortening distad and slightly widening, the distal one somewhat wider than long, somewhat less than half the length of the first; club conic-ovate, not as long as the scape, the joints subquadrate excepting the last, which is very small, resembling a large tubercle or button. Pubescence of antenna consists of stiff, rather sparse, rather long bristles. Funicle joints narrowed somewhat proximad, their disto-lateral angles acute.

Legs normal, the tarsi 5-jointed, the proximal joint long, the tibial spurs single, not more than a fourth the length of the first tarsal joint yet moder-

ately strong, straight, those of the cephalic legs forked; all femora swollen moderately, simple, the tibiae straight, slender; proximal joint of cephalic tarsi shorter.

Thorax rather long, the pronotum especially long, from dorsal aspect nearly transverse-quadrate and broader than the rest of the thorax, produced cephalad into a neck; mesonotum with distinct, rather deep parapsidal furrows and trilobed, the scutum longest of the lobes, convex and rounded off cephalad, its cephalic margin conversely curved and the sclerite saddle-shaped; the parapsides short, lobelike, their axes cephalo-laterad, convexly rounded. Scutellum not very large, oval and convex, without transverse or longitudinal grooves; metathorax slightly convex, somewhat longer than the scutellum, with a median groove, its spiracle moderate in size, circular; metathorax ending in a short, hoodlike neck. Pro- and mesonotum faintly finely reticulated, the metanotum roughly so, nearly punctate. Of carinae, on the metathorax there is a short, curved lateral carina leading from the side of the hoodlike neck half way to the spiracle. A spiracular sulcus leads from the spiracle and is nearly similar to the median groove.

Abdomen with a distinct but very short petiole, pointed conic-ovate and at base ventrad acutely produced, somewhat longer than the head and thorax combined, the ovipositor not exerted. Second abdominal segment longest, covering about a fourth of the abdomen, the others moderately short, gradually shortening caudad, the caudal margins in the dorsal aspect straight. Abdomen with scattered pubescence. Wings hyaline, very minute.

Type.—The following species:

***Urios vestali*, new species.**

Normal position.

Female.—Length, 2.45 mm.

General color shining black, the head colored as described in preceding, the body marked with ochreous as follows: Most of pronotum suffused, disk of scutellum and a large area on each side of the median groove of the metanotum, most of meso- and metapleurum, most of caudal coxæ, the knees and tips of tibiae; tarsi yellowish, also extreme tip of abdomen; distal tarsal joint black.

From a single specimen, $\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male.—Unknown.

Described from a single female specimen taken from the nest of an ant by A. G. Vestal in Illinois. The genus is nearly wingless. Captured in May.

Type.—Accession No. 75,066, Illinois State Laboratory of Natural History, Urbana, Illinois, one female on a tag, plus two balsam slides (♀ head + appendages and ♀ antenna).

Family ENCYRTIDÆ.

Subfamily ENCYRTINÆ.

Tribe *Arrhenophagini*.

Genus **ARRHENOPHAGUS** Aurivillius.

Arrhenophagus chionaspidis Aurivillius.

I add the following redescription in order to call attention to certain probable errors in former descriptions and to make additions.

Female.—Small for the group in size and normal in aspect, but the tarsi are only 4-jointed. Legs normal, all tarsi 4-jointed, the apical joint the longest, the rest short, subequal in length, about half the length of the apical joint, the proximal joint, however, somewhat longer than the second and third joints. *Tibial spurs not long or large*, slightly longer than the proximal tarsal joints. Antennæ 7-jointed—scape, pedicel, two ring-joints (or two small funicle joints), and a *3-jointed club*; pedicel longer than the combined lengths of the two ring-joints, the latter connate with the club, the second wider but shorter than the first; first and second club joints subequal, one-third longer than the pedicel and nearly one-half longer than the apical club joint, which is conic (apparently and casually the antennæ are 3-jointed—scape, pedicel and *unjointed club*, the pedicel being much the shortest of the three, the scape and club subequal in length, but the latter stouter); antennæ inserted below the middle of the face; flagellum club-shaped, bearing uniform, short white hairs rather closely placed. Mandibles moderately short, acute.

Fore wings normal in shape, that is broad, the margins convex; with no transverse oblique (proximo-caudad) hairless line running from the region of the stigmal vein, the discal cilia uniformly close, short and delicate, as are also the marginal cilia (cephalic and apical margins especially, normal position); venation incomplete—marginal, postmarginal and stigmal veins absent, the submarginal vein long and slender, thickening slightly distad, but abruptly terminating before reaching the cephalic margin of the wing; marginal vein represented by a circular fumated spot. Ovipositor acutely saber-shaped, slender, slightly exerted. Axillæ narrow, wedge-shaped, broad, slightly separated.

Head (lateral aspect) wedge-shaped, the base (caudal margin) flat, the opposite (cephalic) margin an inclined plane; from cephalic aspect, triangular. Eyes practically bare. Parapsidal furrows absent.

Resembling somewhat the Aphelinid genera *Casca* Howard and *Bardylis* Howard but distinguished from them by the absence of the marginal and other wing veins, the broader fore wings, the undifferentiated funicle (or the clavate flagellum—excluding pedicel) or antennal characters, by pedal characters and by general aspect and general characteristics.

It is due to Dr. L. O. Howard to state that I was misled by the superficial resemblance of this genus to certain Aphelininæ, so much so as to think of erecting a new genus for it in that group, but thanks to Dr. Howard's

advice, this was not done. I quite agree with previous authors that the assemblage of characters must ally the genus with the Encyrtinae. It is typically encyrtine in appearance. The following are specific characters:

Normal position:—General color shining black, the dorsum of the abdomen black, the disk with some yellow; antennae honey yellow tinged with some dusky; legs and knees concolorous with the antennae, the dorsal aspect of the posterior femur and tibia black; that of the basal half of the intermediate femur dark; most of the anterior femur black; distal tarsal joints dusky, especially at their tips. Maxillary palpi and the tegulae yellow and on the mesothorax just cephalad of the tegula is a small yellow area; venter of thorax black, that of the abdomen dusky yellow, darker in the disk. Across the cephalic margin of the vertex, between the cephalic ends (dorsal aspect) of the eyes from cephalic aspect, between the middle of the eyes along the base of the frons, there is a moderately broad, conspicuous ochreous yellow fascia. Eyes dark garnet; ocelli inconspicuous, dark reddish with some yellow, the lateral ocelli near the caudal margin of the vertex, the three in the usual triangle, the lateral ones far closer to the eye margin than to each other or to the cephalic ocellus.

Vertex and mesothorax, including the axillae, moderately coarsely polygonally reticulated or sculptured, scaly, the sculpture of both somewhat finer than the surface of the eyes and resembling overlapping scales or shingles; the scutellum closely, finely reticulated as if finely, delicately, longitudinally striate. Cheeks, ventrad of eyes, longitudinally rugose, as is also the mesopleura. Eyes round from dorsal aspect. Vertexal carina absent. Scaly sculpture of mesoscutum and longitudinal fine striation of mesoscutellum characteristic.

Fore wings hyaline, but with a circular fumated spot separated from but directly laterad or apicad of the truncated submarginal vein, the latter bearing but from 2-4 large setae, all well separated. Hind wings normal in shape, the discal cilia close as in the fore wing, the marginal cilia absent along the cephalic margin, but moderately long on the caudal margin; the vein short and broad, yellowish, not reaching beyond the proximal fifth of the wing. Scape of antennae reaching to the yellowish fascia across the vertex; club longitudinally striate, its joints connate and also connate with the ring-joints. Abdomen normal, the spiracle of the sixth segment conspicuous, bearing about three long setae and one or two short ones; first and second abdominal segments longer than segments 3-6, but not much more so.

From 18 specimens, $\frac{2}{3}$ -inch objective, Bausch and Lomb

Redescribed from eighteen females reared by Mr. N. Ganguly, a student in the Department of Entomology, University of Illinois, October 10-14, 1908, from *Aulacaspis rosae* (Bouché) on the stems of black raspberry, collected by Mr. R. D. Glasgow on October 6, 1908, at Urbana, Ill. The descriptions were made from stupefied specimens, unmounted, later compared with balsam mounts in which many

of the details of color and sculpture were difficult to interpret with certainty. The species has already been recorded from the same host and locality.

Family EULOPHIDÆ.

Subfamily ENTEDONINÆ.

Tribe *Entedonini*.

Genus **MESTOCHARIS** Foerster.

Mestocharis williamsoni, new species.

Female.—Length, 2 mm.

Agreeing with the description of *Mestocharis wilderi* Howard but the metathoracic carina is paired, the lateral carinæ distinct from it and the fovea on the metascutum is absent. Colorationally as in *wilderi* with the exception that the metanotum is metallic greenish. Metanotum not punctate, finely reticulate, the two narrow median carinæ not quite parallel, diverging gradually very slightly caudad and not very close together; parapsidal furrows represented by a conspicuous deep fovea on each side caudad; medially, the base of the mesoscutum longitudinally striate like the scutellum. Occipital margin of vertex acute. Wings with short marginal fringes and moderately dense, normal discal ciliation, hyaline, the marginal vein long, much longer than the submarginal, the stigmal and postmarginal veins both short and subequal; posterior wings ciliate as the fore wing but the marginal cilia along the caudal margin are longer; tarsi 4-jointed; lateral carinæ of the metathorax distinct, the disk of the metathorax elevated above the pleuræ, its margins carinated, forming the lateral carinæ. Abdominal petiole distinct but short, densely punctate; second abdominal segment long, occupying nearly two thirds of the body of the abdomen; the remaining segments all short, longer cephalad, the third transverse, longest of them, the fourth and fifth subequal, shortest; segments of abdomen polygonally reticulated, the large second segment shining, its sculpture faint and confined to its caudal half, the other segments opaque. Ovipositor not exerted. Metathoracic spiracle regularly elliptical, its axis nearly longitudinal, situated just beyond (laterad) the lateral carina; in the lateral aspect of the metathorax a more or less prominent conical projection.

Antennæ inserted about on a line with the ventral ends of the eyes; 8-jointed, the club terminating in an acute spur-like projection which is merely a prolongation of the second or apical club joint and hence not counted as a joint; scape, pedicel, ring-joint, 3 funicle joints and 2-jointed club; funicle joints subpedunculate, broad, tuberculate, the first distinctly longer than wide, the second and third barely longer than wide, all somewhat compressed, the third wider than the second and about a fourth shorter than the first; pedicel normal, moderately long but distinctly smaller than the proximal funicle joint, slightly shorter than joints 2 or 3 and not broad; scape long, cylindrical but one margin convexed somewhat, slightly longer than the

club; the latter conical, ending in a spur, the basal joint large, ovate, nearly as long as funicle joint 3, the apical joint a fifth or sixth smaller. Ring-joint narrow and short. Pubescence whitish hairs of moderate length arranged in whorls and arising from tuberculate white spots. Mandibles 2-dentate, the teeth about equal.

From many specimens, $\frac{2}{3}$ -inch objective, 1-inch optic, Bausch and Lomb.

Male.—Length, 1.95 mm.

The same but more metallic blue especially at the legs and dorsal aspect of the second abdominal segment. Abdomen not stout and conic-ovate but depressed, oval and truncate distad, the genitalia exerted. Antennæ the same but the peduncles of the funicle joints are more conspicuous.

From three specimens, the same magnification. Described from the following series of specimens received from Mr. Warren Williamson, a graduate student in Entomology at the University of Illinois and for whom the species is named. The whole number was reared from Conopid puparia taken from *Bombus americanorum* Fabricius.

(1) Labelled "10—10—20/Exp. 1. Conopid on *Bombus americanorum* Fabricius, Urbana, Ill., Oct. 20, 1910. *Mcstocharis* emerged May 20, 1911. W. W. seven females, one male emerged; twenty-eight females found in a compact mass, interiorly, besides five pupæ and three larvæ (dead). The host puparium had been broken before emergence." (2) Labelled "10—10—9/Exp. 1. Conopid on *B. americanorum*. Same. The host puparium contained dead pupæ only of the parasite; these were in a mass, each pupa upon a single, large, pyriform meconium which resembled chocolate jelly. A second Conopid puparium bearing the same label was also present; on May 27, 1911, 39 females of the parasite emerged, all from a single, round hole in the cephalo-lateral aspect. Inside this host puparium, afterward, was found a wet mass of "viscera" in which was embedded a dead adult female parasite and a larva, besides a number of pupal casts." (3) Labelled "10—10—9/Exp. 1. The same; emerged May 26, 1911. Fifty-one females, three males from two small round holes at the caudo-dorsal and lateral aspects. The host when opened was hollow, containing mere membranous fragments of the host, unrecognizable, and five dead female parasites and a mass of cast pupal skins among which were a few meconial pellets."

Habitat.—Illinois (Urbana).

Types.—Accession No. 45,067, Illinois State Laboratory of Natural History, Urbana, Ill., 1 ♂, 6 ♀♀ on tags. *Homotypcs*.—Accession No. 45,068 of the same laboratory, many specimens in alcohol, 1 vial.

Subfamily APHELININÆ.

Tribe *Aphelinini*.

Genus **PARAPHELINUS** Perkins.

A genus similar to *Aphelinus* Dalman but differing in the following particulars:¹ The antennæ are longer and more slender, both *funicle joints longer than wide*, not wider than long; the fore wings are narrower (about $3\frac{1}{2}$ times longer than wide) and with a conspicuous sooty black band across them, this band deep black not merely embrowned as in *Aphelinus fuscipennis*. The ovipositor is exerted for about a fifth the length of the abdomen. The body is stout and large for the subfamily, the mandibles tridentate, the two outer (lateral) teeth acute and subequal. Otherwise as in *Aphelinus*. Also allied with *Centrodora* Foerster but differing in the black-banded fore wing and more distinct 2-jointed antennal club, as well as in having naked eyes, unequal funicle joints and one joint less in the antenna. From *Perissopterus* Howard it differs in not having the characteristic maculate fore wings and in lacking the "ring-joints" in the antennæ. The genus is based on a species occurring in Hawaii; the following North American form has been captured recently by me and forms the basis for the generic characters just given.

Paraphelinus speciosissimus, new species.

Normal position.

Female.—Length, 1.45 mm., including ovipositor.

General color black, the thorax yellow, excepting the tegulæ, axillæ, pronotum and scutellum, which are dusky black; median line of scutellum yellow; funicle and club of antenna yellow; head suffused with some yellow; all of legs concolorous with yellow of the thorax excepting the caudal coxæ and femora which are black; caudal trochanters pallid; distal tarsal joints not darker. Mandibles fuscous; eyes dark. Both wings hyaline but the fore wing crossed by a conspicuous sooty band beneath the whole length of the marginal and stigmal veins, the band nearly as wide as long, its margin (proximal and distal) not straight, the distal margin irregularly concaved. Venation dusky yellowish. The whole fore wing has a slightly darker shade than the posterior wings.

Scutum and scutellum with a median grooved line, the scutellum polygonally sculptured. Fore wings regularly rounded, the marginal fringes short, very short along the cephalic margin, the discal ciliation uniform, close, fine, the oblique hairless line running through the black band; the subtriangular patch

¹The generic characters following are taken from the species described below.

of discal ciliation proximad of it is about twice coarser than the main body of the ciliation. Marginal and submarginal veins about equal, the postmarginal vein absent, the stigmal distinct but not long. The caudal wing as usual, its discal ciliation sparse, a distinct paired row along the cephalic margin, the blade bluntly pointed. The posterior femora are swollen somewhat. Abdomen ovate. Tarsi 5-jointed. Scutellum not acute along its caudal margin.

Antennæ 6-jointed, inserted near the mouth border—scape, pedicel, two funicle joints and a long 2-jointed club. Scape long and slender, slightly longer than the club, or the combined lengths of the pedicel, funicle and proximal club joint; pedicel moderate, obconic, distinctly longer than either of the funicle joints but shorter than the proximal club joint; funicle joints not large but both longer than wide, oval, the second about a half larger than the first; proximal club joint long, widening distad, a third longer than the pedicel, the distal joint twice the length of the pedicel and conic-oval; club long, cylindrical, tapering to a point distad. Antennæ apparently without pubescence.

Male.—Unknown.

Described from a single female specimen captured May 17, 1911, on the windows of a small granary at Urbana, Ill. (A. A. Girault).

Habitat.—Illinois (Urbana).

Type.—Type No. 14,122, United States National Museum, Washington, D. C., one female in xylol-balsam. This species is large, beautifully and strikingly colored and should be easily recognized.

TUMIDISCAPUS, new genus.

A genus allied to *Paraphelinus* Perkins in general shape of the wings and body, but differing in having the scape of the antennæ enormously enlarged, bearing a leaflike expansion along its entire length and the antennal club is shorter, less slender. Otherwise agreeing structurally with the genus named. *Type*, the following species:

Tumidiscapus flavus, new species.

Male.—Length, 2.50 mm. Large for the subfamily.

General color lemon yellow, the apical half of the abdomen tinged with orange; sides of abdomen darker; appendages concolorous but distal tarsal joint and apical joint of antennal club darker. Wings hyaline, venation yellow. Eyes dark red, ocelli ruby red. Tips of mandibles fuscous.

Fore wings as in *Aphelinus* Dahman but somewhat more slender; marginal vein slightly longer than submarginal, both long, the stigmal vein moderate in length, straight, with a slight neck; postmarginal vein absent. Discal ciliation proximad of the oblique hairless line twice coarser and arranged in about five lines; main discal ciliation fine; marginal cilia short on costal margin, about as long as the proximal discal ciliation, noticeably longer (moderate in length)

disto-caudad, lengthening gradually around the apex from the costal margin. The oblique hairless line runs in front of the apex of the stigmal vein. Posterior wing with about four lines of discal cilia, its longest marginal cilia (caudad) nearly as long as the wing's greatest width. Middle tibial spur long but slender. Mandibles tridentate. Parapsidal furrows complete. Cephalic tarsi with a strigil. Eyes naked, genitalia projecting slightly.

Antennæ 6-jointed; shaft of scape cylindrical but nearly concealed by an enormous ovate leaf-like expansion above and below, which runs its whole length; scape as long as the flagellum; pedicel normal, obconic, longer than either of the following joints; the two funicle joints unequal, the first a third (nearly a half) shorter than the second but distinctly longer than wide, the second twice longer than wide; proximal club joint no longer than funicle one, widening distad, somewhat differentiated from the distal joint which is large, about four times the length of the proximal joint, a third wider and conic-ovate; the distal club joint is longer than the funicle. Pubescence of antennæ sparse. Expansion of scape with a distinct scaly sculpture.

Female.—Unknown.

From a single male specimen mounted in xylol-balsam and captured on the panes of an old shed on a farm at Centralia, Ill., June 21, 1911 (A. A. G.).

Type.—Cat. No. 14,121, United States National Museum, Washington, D. C., one male in xylol-balsam.

Genus **COCCOPHAGUS** Westwood.

Coccophagus lecanii (Fitch).

The following Illinois record: Many specimens from a Lecanium scale on osage orange, Chicago, Ill., August 10–16, 1908 (J. J. Davis).

Genus **PHYSCUS** Howard.

Physcus varicornis Howard.

The following Illinois records: A male and female specimen reared from *Aspidiotus perniciosus* Comstock, Urbana, Ill., July 11 and 4, 1907, respectively (J. A. West). Another female from same host lot, July 4, 1907; eight males, four females reared from *Chionaspis americana* Johnson on elm, Chicago, May 24, 1908 (J. J. Davis); from hibernated *Chionaspis furfura* Fitch on apple, 20 April, 1908, Urbana (one male, two females).

The male has never been described. Its antennæ are filiform, 8-jointed, uniform in color, the club not differentiated, the pedicel very short in comparison with the proximal funicle joint.

Genus **ABLERUS** Howard.**Ablerus clisiocampæ** (Ashmead).

In Illinois this species has been reared as follows: A female specimen from *Aspidiotus perniciosus* Comstock, July 20, 1907, Urbana (J. A. West); from *Chionaspis furfura* Fitch on apple, one female, April 12, 1908, Urbana, Ill. (A. A. G.).

Genus **ASPIDIOTIPHAGUS** Howard.**Aspidiotiphagus citrinus** (Craw.).

I have captured a single female specimen of this species at Urbana, Ill., May 11, 1911, in a greenhouse.

Genus **APHELINUS** Dalman.**Aphelinus mytilaspidis** Le Baron.

I desire to record this common Coccid parasite from the following locality in Illinois: From *Aspidiotus perniciosus* Comstock on plum at Carbondale, Ill., June 20, 1908.

Aphelinus fuscipennis Howard.

This parasite has been reared in Illinois from *Aspidiotus perniciosus* Comstock on plum at Carbondale, June 20, 1908, and from *Aspidiotus uva* Comstock on grape, July 6, 1908, at Anna (L. M. Smith).

Aphelinus mali Haldemann.

The following rearing records: Two females, Urbana, Ill., July 5, 1908, from *Pemphigus fraxinifolii* Riley on ash (J. J. Davis); nine females reared from the same *Pemphigus* at College Station, Texas, June 14, 1907 (C. E. Sanborn).

Family TRICHOGRAMMATIDÆ.

Subfamily OLIGOSITINÆ.

BRACHISTELLA, new genus.

A genus characterized by having the discal ciliation of the fore wing normal, the venation straight, the antennæ 8-jointed (scape, ring-joint, 2 funicle joints and a 3-jointed club), the abdomen conic-ovate, with the ovipositor non-exserted and with the exception of the discal ciliation of the wings resembling *Ittys* Girault (species *cerasarum* Ashmead). It will follow *Brachista* Haliday in my table of genera of the group. The type species is

(Abbella) *Trichogramma acuminatum* (Ashmead), which I have described in full elsewhere (Trans. Amer. Ent. Soc., Phila., XXXVII, 1911, pp. 13, 77-82).

Of *Brachistella acuminata* (Ashmead), very recently I have captured the following specimens: A female at Coulterville, Ill., June 20, 1911, on the window of a wagon repair shop in company with *Aphelinoides semifuscipennis*; three females in the same locality, same time, on the window of a foundry adjoining; a female at Urbana, Ill., May 17, 1911, on the window of a small granary (stored corn); another female, same locality, May 21, 1911, on the pane of a window in a livery stable; nine females at St. Joseph, Ill., May 21, 1911, on the windows of a livery stable; and on May 31, 1911, two females together on a window in a hennery on a farm at Hendrix (Bloomington), Ill. The species appears, then, to be very common in the state of Illinois.

Genus **APHELINOIDEA** Girault.

Aphelinoides semifuscipennis Girault.

On June 10, 1911, several female specimens of this species were captured from the panes of a window in the loft of a livery stable at Nashville, Ill. They serve to confirm the original description of the species and the locality is new. They were running slowly over the pane and resembled to the eye, dark specimens of *Pentarthron minutum* (Riley); also four females, two each on the windows of a wagon repair shop and foundry respectively, at Coulterville, Ill., June 20, 1911; and one June 15, 1911, Marissa, Ill., on a window in a hennery.

Genus **WESTWOODELLA** Ashmead.

Westwoodella sanguinea Girault.

This interesting species has been collected recently in the following localities: One female, Coulterville, Ill., June 20, 1911, on the window of a foundry in company with the *Aphelinoides* and *Brachistella*. A female at St. Joseph, Ill., May 21, 1911, on the window of a livery stable and three females at Hendrix (Bloomington), Ill., May 31, 1911, on the window of a barn on a farm. All the foregoing are the typical red form.

Subfamily TRICHOGRAMMATINÆ.

Genus **UFENS** Girault.**Ufens niger** (Ashmead).

Girault, 1911. Trans. Amer. Ent. Soc., Phila., XXXVII., pp. 32-38, pl. I, fig. 10.

This species very recently has been taken from the panes of a window in a barn on a farm at Hendrix (Bloomington), Ill., May 31, 1911 (one male, three females).

From these specimens I have been enabled to make out the correct structure of the funicle of the antenna which is really 2-jointed; hence the female antennæ are 8-jointed. This applies as well as to *Ufens luna* Girault, a West Australian species.

Also in the original description the male antennæ were erroneously described as being 7-jointed; however, the minute globular apical joint must be counted, which together with the narrow, very short ring-joint makes nine in all—scape, pedicel, a minute ring-joint, a 2-jointed funicle less distinctly differentiated than in the female and a 4-jointed club, less conic and well-defined than in the female.

Family MYMARIDÆ.

Subfamily GONATOCERINÆ.

Tribe *Ooctonini*.Genus **CAMPTOPTERA** Foerster.**Camptoptera clavata** Provancher.

Camptotera clavata Provancher, 1889. Additions et corrections au volume II de la faune entomologique du Canada traitant des Hyménoptères. In Petite faune entomologique du Canada, etc., p. 404.

Camptoptera clavata Provancher, Girault, Annals Ent. Soc. of America, II, 1909, p. 26.

Through correspondence with the Abbé V. A. Huard, Musée de l'Instruction Publique, Quebec, I have been enabled to see the unique type specimen of this species, but unfortunately it met with an accident in the mails and was so badly damaged that only a fore wing and several tarsi remained when it finally reached me. From these fragments, however, I am able to state definitely that it can not be a Mymarid and hence has no place in this genus. The fragments were remounted in balsam. The fore wing is densely ciliate discally and has the venation of a Pteromalid. The marginal fringes of the fore wing are short, the longest not more than a thirteenth of the wing's greatest width. The costal cell is well developed, the submarginal

vein long and slender, eight or more times longer than the short, straight, broad marginal vein, which is twice the length of the stigmal vein, which is distinct but without a neck; postmarginal vein somewhat shorter than the stigmal and short and broad, subconic. Apex of the submarginal vein just before it joins the marginal is colorless. The tarsi are 5-jointed, with the spur forked and the strigil well-developed on the cephalic legs. The proximal tarsal joint is long. The tibiae are curved and enlarged distad, almost club-shaped. The proximal tarsal joint of the cephalic legs is curved at base.

These notes are based on a fore wing and the tibiae and tarsi of two legs mounted in balsam from the original type tag-mount which was labelled "*Camptotera clavata* Prov. 1598." The remounted fragments have been returned to their place of deposit mentioned above.

Subfamily MYMARINÆ.

Tribe *Anaphini*.

Genus **ANAGRUS** Haliday.

***Anagrus armatus* (Ashmead).**

I have the following recent records of this widely distributed species: Two balsam slides bearing a female each, received for identification from Dr. L. O. Howard and each bearing the label "Bred from grape scale. J. F. Zimmer, Washington, D. C., May 27, 1911," also respectively, the numbers "10" and "11." The supposed host is *Aspidiotus uva* Comstock, but it is more probable that the parasites were from some Jassid or similar eggs in the grape stems. And five females collected from windows of stables and barns at St. Joseph, Ill., May 21, 1911.

Genus **ANAPHOIDEA** Girault.

***Anaphoidea pullicrura* Girault.**

I have an additional female of this species captured in a greenhouse, Urbana, Ill., May 5, 1911.

Genus **ANAPHES** Haliday.

***Anaphes sinipennis* Girault.**

Since describing this species I have captured another female of it at Urbana, Ill., May 20, 1911, on a window.

Anaphes nigrellus Girault.

Mr. Warren Williamson, a graduate student in the Department of Entomology of the University of Illinois, was kind enough to give me a male specimen of this species which alighted on his cuff while he was working in the laboratory at Urbana, May 20, 1911. It was colored like the female. Also an additional female at Litchfield, Ill., July 13, 1910 (A. A. G.), from the window of a livery stable.

Anaphes iole Girault.

A male of this species I captured by sweeping at Butler, Ill., July 14, 1910. It is like the female; the antennæ are filiform, 12-jointed, the funicle joints gradually lengthening to the club which is shorter and subequal to the proximal funicle joint.

Anaphes pratensis Foerster.

I have what is undoubtedly a female of this European species which was captured from a cuff while sitting in blue grass, Urbana, Ill., May 7, 1911. The long slender proximal funicle joints are characteristic.

Tribe *Mymarini*.Genus **MYMAR** Haliday.**Mymar venustum Girault.**

In the current (June, 1911) volume of the Journal of the New York Entomological Society, I proposed in a footnote the name above mentioned for a specimen of this genus which was supposed at first to be *Mymar pulchellum* Curtis. The specimen had been found in the collections of the United States National Museum and in the place referred to I called attention to the occurrence of the genus in North America; at the same time the specimen was described in detail for the reason that I was not certain it was *pulchellum*. Subsequently, through the kindness of Mr. C. O. Waterhouse, I received a pair of the latter species and am now able to point out the differences between the English and American species.

In general appearance they are very similar, especially in coloration. The following structural differences are present: In the fore wing there are about four more primary marginal cilia (34); in *pulchellum* only from 28 to 30; the primary marginal cilia are somewhat coarser and the wing blade somewhat larger than in *pulchellum*; the nearly central line of discal cilia in *pulchellum* extends proximad

to the apex of the blade, whereas in *venustum* it ends against the costal margin of the blade, some distance (about 3 cilia) distad of the apex of the blade; in *pulchellum* the fumated portion of the blade is smoky black, in *venustum* smoky brown. In the color of the antennæ: In *venustum*, they are yellow (light gamboge) with the exception of the club which is fuscous or black brown; whereas in *pulchellum*, the first three funicle joints and the club of the antennæ are black brown, the other joints yellow. The male of *pulchellum* is like the female; its antennæ, however, are filiform and 13-jointed.

From a male and female of *pulchellum* labelled "Richmond, Eng. 10. 9. 10. C. Waterhouse," remounted in xylol-balsam from a card and the single type specimen of *venustum*.

Type (of *venustum*): Cat. No. 13,820, U. S. National Museum, Washington, D. C., 1 female in xylol-balsam.

Genus **POLYNEMA** Haliday.

***Polynema consobrinus* Girault.**

Of this very common member of the genus the following recent captures have been made in Illinois: One female from the window of a livery stable, St. Joseph, May 21, 1911. One female on the window of a hennery on a farm at Hendrix (Bloomington), May 31, 1911; another female on a stable window at Ridgefarm, May 29, 1911; two others in a greenhouse, Urbana, May 5 and 6, 1911, and one May 9, 1911, in the same place on the panes of a window in a livery stable.

***Polynema longipes* (Ashmead).**

I have captured a single female specimen of this species at St. Joseph, Ill., May 21, 1911, on the window of a stable. Also three others at Nashville, Ill., June 10, 1911, in a similar situation.

***Polynema graculus* Girault.**

At St. Joseph, Ill., May 21, 1911, I took a male of this characteristic species from the pane of a window in a livery stable.